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A REVIEW OF THE GENEVA NEGOTIATIONS: 1989-1990

by David Cox

INTRODUCTION

The United States and the Soviet Union have been engaged in continuous bilateral negotiations on nuclear arms control since March 1985. Initially, the negotiations in Geneva were divided into three 'baskets': intermediate-range nuclear forces (INF); the strategic arms reduction talks (START); and the defence and space talks, which the Soviets have referred to as 'space weapons' talks.

At the Washington summit in December 1987, the two sides signed the INF Treaty, which provides for the phased reduction of all intermediate-range weapons by 1991, and a ten-year period thereafter in which on-site inspections are permitted to ensure compliance with the Treaty. At the same meeting, Presidents Reagan and Gorbachev issued a communiqué which identified an agreed framework for a START treaty. The framework was intended to provide an impetus to the negotiations in Geneva in the hope that it might be possible to sign an agreement on strategic arms at the Moscow summit planned for June 1988. Although some progress was made in Geneva in the first months of 1988, significant disagreements remained when the two leaders met again in Moscow from 29 May to 2 June 1988. The Moscow meeting produced two valuable agreements — on the establishment of a bilateral nuclear risk reduction centre and the exchange of information about planned missile launches — but the main objective was not achieved. Thereafter, it was accepted that a START agreement would await the election of President Reagan's successor.

This paper reviews the development of the strategic arms and missile defence negotiations in Geneva during 1989, the first year of the Bush Administration, and into the early months of 1990. During this time Soviet strategic forces were undergoing modernization with the deployment of the SS-24 and SS-25 mobile missiles, and the development of a new version (Mod 5) of the heavy SS-18. There appeared to be little controversy in the Kremlin about the course of this modernization. By contrast, the Bush Administration reviewed both the US force posture and the direction of the Strategic Defense Initiative (SDI). The policy review in Washington had considerable impact on the course of the START negotiations in Geneva.

THE BUSH STRATEGIC REVIEW AND START

The tenth round of negotiations in Geneva ended on 16 November 1988, just one week after the US Presidential election. This round of negotiations exhibited a familiar pattern of broad agreement in principle, but considerable differences on the specifics of the draft treaty ranging from the intricate details of verification to important disagreements on the rules to be applied to specific weapons systems. In a valedictory White House statement on 17 November, President Reagan described the negotiations as "a solid foundation on which to build." He also identified the important areas of disagreement: mobile missiles, the modernization of 'heavy' intercontinental ballistic missiles (ICBMs), sublimits on ICBM warheads, rules for counting air-launched

cruise missiles (ALCMs) and submarine-launched cruise missiles (SLCMs), and the linkage of an agreement reducing strategic offensive forces to the Anti-Ballistic Missile (ABM) Treaty and the general question of space-based defences.

Nevertheless, it was soon clear that the Bush Administration would not continue the negotiations without conducting a review of its own position. Key personnel appointments suggested that there might be significant changes in US policy. In particular, Brent Scowcroft, the new National Security Advisor, was on record as supporting the single-warhead, mobile Midgetman ICBM whereas the Reagan negotiating position was to ban all mobile missiles. Prior to taking office, Scowcroft had also raised the possibility that the United States might consider a total ban on SLCMs. He had also been critical of Star Wars testing that might be in conflict with the traditional interpretation of the ABM Treaty, arguing that ten years of further adherence to the Treaty would not seriously affect Star Wars research. The appointment in February 1989 of Richard Burt as Head of the US delegation in Geneva further suggested that changes could occur, since Burt soon raised for discussion suggestions for a ban on the Soviet 'heavy' ICBM missile, the SS-18, and a ban on mobile missiles with multiple warheads (the Soviet SS-24, of which a small number are already deployed, and the MX missile, if Bush chose to deploy it in a mobile form.)

In the first months of 1989, however, it was not the details of the START agreement which occupied the attention of the administration, but the overall structure and modernization of US strategic forces, whether considered in isolation from arms control, or in a post-START environment. Perhaps because of this protracted internal debate, when the two sides finally resumed negotiations in June 1989, some six months after Bush took office, the conclusions of the strategic review had still not been formally announced. Nor was it evident that the US team had returned to Geneva with a set of proposals significantly different to that of the Reagan Administration.

A number of factors explained both the lengthy delay in resuming the START negotiations, and the ultimate return of the negotiating team to Geneva with relatively little change in position. First, the protracted confirmation hearings of the Bush nominee for Secretary of Defense, John G. Tower, and the ultimate Senate rejection of the nomination, meant that the influential voice of the Office of Secretary of Defense was missing from the internal debate in the first critical months of the Bush Administration.

Second, in early 1989, the strategic arms negotiations, for twenty years the cornerstone of the superpower arms

control relationship, seemed to fade in importance in comparison with the emerging prospect of a conventional arms agreement in Europe. In May 1989, Richard Burt denied reports that the administration now favoured a conventional forces agreement over a START treaty. However, there was little doubt that the unprecedented opportunity to reduce troops in Europe detracted from any attempt to give fresh impetus to the START negotiations.

Third, budgetary constraints combined with service programmes seemed likely to play an increasingly important role in determining US strategic force deployments no matter what the imperatives of arms control. On 25 April 1989, the new Secretary of Defense, Richard Cheney, submitted a revised budget to Congress. A total of \$10 billion had been cut from the original FY 1990 budget submitted in January by the outgoing President.

The United States Air Force had expressed a strong preference, mainly on the grounds of cost effectiveness, for the rail-mobile version of the multiple-warhead MX ICBM. The Congress, on the other hand, showed continuing strong support for the single-warhead, mobile Midgetman. Cheney was obliged to opt for both missiles. In his budget submission he proposed to build and deploy fifty rail garrison MX missiles by 1992, while continuing to develop Midgetman with a view to deploying it beginning in 1997.

As Cheney pointed out, this approach would match the current Soviet mobile ICBM deployments — the single warhead SS-25 and the multiple-warhead SS-24. It was nevertheless in conflict with the US negotiating position, which called for a ban on all mobile missiles. Cheney later explained that the United States would continue to seek a ban as long as Congressional approval of mobile deployments was withheld, and until the Soviets agreed to a verification regime which would permit verifiable limits on mobile deployments.

His budget proposal barely satisfied Congress, however, where influential supporters of Midgetman such as Les Aspin, Chairman of the House Armed Services Committee, worried that Midgetman would become a victim of budget cutbacks once the rail-mobile MX has been deployed. Such fears were reinforced by the apparent inability of the administration to set priorities in planned US strategic modernization programmes despite the prospects of a long-term decline in the defence budget. In the same submission, for example, Cheney reaffirmed support for the B-2 Stealth bomber, though he planned to slow down its production by one year, and announced increased spending on the B-1B bomber. Commenting on the continuing US plan to deploy 230 B-1B and B-2s, in a February speech in Norway, former special advisor Paul

Nitze noted that the strategic bomber force was the number planned for deployment even in the absence of a START treaty. As discussed below, this was possible because of the counting rules for ALCMs and gravity bombs used in the US draft treaty.

Similar considerations applied in the case of the US Navy. The week after the Cheney budget announcement of 25 April 1989, Navy spokesmen announced their intention to build twenty-one operational Trident submarines by 1999, a number which would produce a capability to deploy over 4,000 warheads even though the START framework limited total ballistic missile warheads to 4,900. By comparison, seventeen Trident boats — a number which would leave the last one to be authorized in FY 1991 — would be able to deploy 3,244 warheads, or a major fraction of the 4,900 permitted under the START framework. In responding to questions about the need for the additional submarines, spokesmen explained the apparent anomaly by pointing to a significant feature of the START proposal. Where previously it had been assumed that the number of warheads on a missile would be counted as being the maximum number to have been deployed in flight tests, the draft START agreement would not preclude putting fewer warheads on a larger number of platforms. The consequence, however, was that more intrusive inspection would be required to verify that the platform actually carried the number of declared warheads rather than the maximum number of which it was capable.

In the months after the Cheney budget speech of April 1989, little changed in the emerging US force posture. Although there were continuing Congressional pressures to cancel or cut back the B-2 programme, to reduce the number of Trident submarines, and to cancel either or both the MX and the Midgetman, all of these programmes, as well as the advanced cruise missile, survived the FY 1991 budget when it was submitted to Congress in February 1990. In admitting that the decisions on the MX/Midgetman were not a product of the review, Cheney agreed that in a "nice, neat orderly process ... we'd do the strategy and then we'd come around and do the budget." In this outcome for the Bush Administration, however, neither budgets nor the strategic review produced any significant change in the US plans for strategic force modernization.

The strategic review undertaken by the Bush Administration was meant to set the tone for the recommencement of negotiations in Geneva. However, because no new definition of the US strategic force posture emerged from this review, its first effect was to produce a hiatus in the Geneva negotiations from November 1988 to June 1989. On the other hand, when the talks did finally resume, the US delegation had little new to bring to Geneva, since their START position needed to defend all

of the weapon systems under development, including, paradoxically, the mobile missiles which the United States still officially wished to ban.

MEETING AT JACKSON HOLE

Between June 1989 and the spring of 1990 three further rounds of negotiations took place in Geneva. In addition, two ministerial meetings took place — one at Jackson Hole, Wyoming, in September 1989, and one in Moscow in February 1990. Presidents Bush and Gorbachev also met in December 1989 at a mini-summit in Malta. The purpose was to give impetus to, amongst other things, the negotiations in Geneva. All of these meetings were meant to pave the way for a Washington summit in June 1990 at which a strategic arms control treaty would be signed.

When the talks resumed in June 1989, the START framework agreed at the Washington summit of December 1987 was largely intact. In summary, the framework provided for the following:

- a ceiling of 1,600 strategic nuclear delivery vehicles, where 'strategic' was defined to include ICBMs and heavy bombers with a range of more than 5,500 kilometres, and ballistic missile submarines (SSBNs)
- no more than 6,000 warheads on these delivery vehicles (thereby restricting for the first time the total number of warheads deployed as opposed to missiles deployed)
- a sublimit of 4,900 on the aggregate number of ICBM and SLBM warheads within the 6,000 total, which allowed each side to choose their preferred combination of ICBM and SLBM warheads
- a sublimit of 154 'heavy' missiles to carry not more than 1,540 warheads, where, for practical purposes, 'heavy' was defined as an ICBM equal to or larger than the Soviet SS-18
- a limit on the throw-weight of these missiles such that, after the prescribed reductions, the aggregate throw-weight of Soviet ICBMs and SLBMs would be approximately fifty percent less than current Soviet levels, with the new limit not to be exceeded by either side thereafter.

This framework left a number of outstanding issues to be resolved, perhaps the foremost being the continuing question of the linkage to the ABM Treaty and the deployment of ballistic missile defences. Specifically in relation to offensive force reductions, however, the unresolved problems concerned mobile missiles, further limits on heavy ICBMs, the counting rules for ALCMs, and limits, if any, to be imposed on SLCMs. In addition, complex technical questions of verification remained to be resolved in the expert groups meeting in Geneva.

During the relatively brief eleventh round of negotiations, which began in June and ended early in

August 1989, virtually no progress was made on any of these key issues. In a situation, therefore, where there was growing uncertainty about the prospects for START, the September meeting between foreign ministers James Baker and Edward Shevardnadze at Jackson Hole, Wyoming, took on added significance. After the meeting both sides took the view that the meeting had broken the logjam and confirmed the feasibility of a START agreement in time for a mid-summer 1990 summit in Washington. In relation to the outstanding issues, the Jackson Hole meeting produced a series of new proposals and agreements in principle.

MOBILE MISSILES

Throughout the START negotiations the United States has expressed grave concerns about the feasibility of verifying mobile missiles in the event that they were included in a permitted ceiling on ICBMs. US concerns have centred on the difficulties involved in locating and counting mobile missiles. For example, rail-mobile missiles, as well as stored mobiles, can be easily hidden and yet quickly prepared for operation. Proposals for verification, therefore, have sought to restrict the deployment areas of mobile missiles. They have also attempted to facilitate national technical means of verification. For example, there might be a requirement to open shelters at stipulated times in order to permit satellite observation.

The United States has nevertheless been skeptical about the reliability of such methods, and has therefore sought a total ban on mobile missiles. In the course of the Bush strategic review, Richard Burt informally suggested a modified proposal to ban mobile missiles which are MIRVed — that is, just those that are equipped with multiple, independent warheads. He argued that these weapons constitute a much larger potential to conceal warheads and thus pose a much greater verification problem than do single-warhead mobile missiles.

While verification of mobile missiles is undoubtedly a difficult technical problem, a comprehensive ban has been predictably resisted by the Soviets since they have already commenced deployment of two new systems — the single warhead SS-25, and the eight-warhead SS-24. Moreover, unlike the United States, the largest fraction of existing Soviet warheads are on fixed, land-based ICBMs, and therefore vulnerable to counterforce attacks by highly accurate US missiles such as the MX and the Trident D-5. At Jackson Hole the United States indicated that it was willing to withdraw its ban on mobile missiles in START, conditional on congressional funding of US mobile missiles. The two sides also agreed to continue work on the verification of mobiles.

SEA-LAUNCHED CRUISE MISSILES

Throughout the START negotiations SLCMs have constituted one of the core intractable disputes between the two parties. In principle, the Soviet Union would like to count all SLCMs with a range over 600 kilometres in the warhead ceiling of a START treaty; the United States proposes to exclude SLCMs entirely from the agreement, arguing that nuclear tipped SLCMs cannot be reliably distinguished from conventional ones. The United States plans to deploy a force of about 4,000 SLCMs, of which some 800 might be nuclear. In its view, not only is the verification problem too complex, but Soviet proposals, involving, for example, on-board inspection, are intended to constrain US conventional as well as nuclear naval capabilities.

The 1987 Washington communiqué took a modest step towards compromise on this issue by committing the two sides to an agreement on SLCMs outside the 6,000-warhead ceiling. Thereafter, little progress was made on what that ceiling might be, or on how to verify it. In July 1989, in the context of various proposals for verification regimes, the Soviet Union conducted an unusual experiment in the Black Sea in co-operation with a private US group, the Natural Resources Defense Council, which had previously been involved in a co-operative programme to monitor Soviet nuclear weapon tests. In the Black Sea test Soviet and US scientists measured the radiation emitted by a nuclear tipped cruise missile on board a Soviet warship, seeking to establish that the nuclear missile could be distinguished from nearby conventional warheads. The measurements were taken by helicopter and from a neighbouring ship to establish that intrusive on-board inspection would not be necessary to verify a ban on nuclear SLCMs.

Although the experiment was successful, it was clear that it was also limited, since no attempt had been made to shield the nuclear weapon from detection. Official US reaction remained skeptical, while the Soviets argued that more sophisticated equipment would overcome attempts at deliberate concealment. In August 1989 the two senior negotiators, Burt for the United States and Yuri Nazarkin for the Soviet Union, presented their respective views to the Conference on Disarmament in Geneva. Reflecting, perhaps, the unwillingness of the administration to consider a ban on nuclear SLCMs, Burt reiterated the administration's view that there was still no effective way to verify limits on the production and storage of SLCMs. Nazarkin, by contrast, described a comprehensive verification procedure. In this approach monitoring posts would be set up at factories to verify the production of missiles. A tagging system would be used to identify missiles and facilities established to distinguish conventional from nuclear SLCMs, which would be deployed only on certain identified classes of submarines.

and ships. Finally, on-board inspections would give final assurance that treaty limits on nuclear SLCMs were being observed.

This complex procedure undoubtedly reinforced the view, particularly strongly held by the US Navy, that verification procedures were too intrusive. Going into the Wyoming meeting, the United States was willing to discuss only a non-binding exchange of information on deployment plans. However, the Soviets made a significant change in their position. Without relinquishing their claim that SLCMs be controlled, they suggested that SLCMs be taken out of the START negotiation and be the subject of a separate but associated agreement. Shevardnadze also suggested that SLCMs might become part of a broader negotiation on naval arms control. Although the latter linkage is also unacceptable to the Bush Administration, which currently opposes any naval arms control negotiations, the shift in Soviet position appeared to clear the way for a compromise which would permit the START negotiation to conclude without an agreement on SLCMs.

AIR-LAUNCHED CRUISE MISSILES

The Wyoming meeting was less successful in resolving another longstanding disagreement on the counting rule to be applied to air-launched cruise missiles. In the Soviet view, all ALCMs with a range of more than 600 kilometres should be included in the 6,000 warheads total. To calculate the numbers involved, each bomber would count as having the number of ALCMs which it was equipped to carry, with this to be confirmed by on-site inspections.

The United States has resisted this approach on a number of grounds. First, the 600-kilometre criterion would probably snare the SRAM II, a new stand-off air-launched missile which has so far been exempt from the warhead ceiling insofar as it is treated in the same way as a gravity bomb. (A strategic bomber carrying gravity bombs counts as one delivery vehicle and one warhead no matter how many bombs and SRAMs it might carry). Second, the administration argues that heavy bombers would seldom if ever carry their maximum capable number of ALCMs, and so proposes instead a nominal counting rule of ten ALCMs per designated bomber. A standard counting rule of this kind, however, weighs unevenly on the two sides. The Soviet Bear-H and Blackjack bombers carry a maximum of twelve ALCMs each, whereas the B-52-H and the B-1B can carry twenty, or, in some accounts, even twenty-four ALCMs. Since both sides continued to accept the START rule that heavy bombers carrying gravity bombs would count as one delivery vehicle and one warhead under the proposed ceilings, the United States in particular continued to

maintain a potential to deploy far more actual warheads than would be counted under the 6,000-warhead ceiling.

Although Wyoming failed to produce a solution to the ALCM question, the problem nevertheless seemed conducive to compromise in an eventual settlement of the outstanding issues. Unlike SLCMs, the ALCM issue is simplified by the relative ease of identifying the ALCM carrier, a procedure which worked successfully in SALT II. The question, therefore, centred more on the negotiation of an equitable formula rather than on verification as such.

VERIFICATION AND STABILITY

At Wyoming the two parties also signed an Umbrella Agreement on verification and stability. With some modifications, this agreement copied the series of proposals tabled by the United States in June 1989, when it was suggested that a package of verification measures could be agreed in advance of a specific treaty text. The measures covered in principle in the Umbrella Agreement were the following:

- 1) An exchange of nuclear weapon data both before and after reductions take place. Recognizing the complexity involved in the data exchange, the advance exchange of data was presented as a way to facilitate the final treaty negotiations.
- 2) The trial monitoring of mobile missile factories. Under the INF Treaty, the two sides established portal monitoring of missile factories to ensure that no further missiles were produced. Since the START agreement would not ban the production of mobile missiles but only establish limits on production, monitoring promised to be considerably more demanding. Trial monitoring also addressed US concerns about the difficulties of verifying mobile missiles in storage rather than deployed.
- 3) Direct inspection of missile warheads or re-entry vehicles. This provision essentially permitted the sides to move away from the old principle that a missile would be deemed to have the maximum number of warheads with which it had been flight tested. The US proposal now permitted each party to stipulate the number of warheads deployed on a given missile such as the MX or the D-5, and to accept on-site inspection as a means of verifying compliance.
- 4) A ban on encoding telemetry from missile flights. The Reagan Administration had frequently alleged that Soviet encryption of missile test data violated SALT II. The proposal for a ban on encryption, however, failed to specify precisely what encryption

was banned. Moreover, the Soviets, who had indicated earlier that they would support a ban, proposed that it also apply to cruise missile testing, to which the United States was flatly opposed.

- 5) Weapon inspection and tagging. Essentially, this was a proposal to conduct familiarization experiments in verifying the number of warheads on a missile — an unprecedented step in itself, which implied as well that Soviet inspectors would be entitled to board US ballistic missile submarines. Additionally, the two sides proposed to demonstrate missile tagging techniques using, at least in the case of the United States, epoxies containing reflective particles.
- 6) SLBMs. Finally, the parties agreed to address the problem of short-time-of-flight SLBMs. There has been a longstanding US concern about the vulnerability of its command and control and retaliatory forces to a surprise attack by ballistic missiles fired from Soviet SSBNs standing off the US coasts.

In addition to these measures, the Wyoming summit also produced a minor agreement, again following earlier proposals by the United States, to provide advance notification of one major strategic force exercise per year involving heavy bombers.

MALTA AND MOSCOW

Although on close examination the Wyoming meeting yielded less substantive progress than at first appeared — essentially the core problems of ALCMs, SLCMs, mobiles and strategic defences were not resolved — the meeting generated a mood of optimism that a START treaty was within sight, and could possibly be completed in time for the planned summit in the summer of 1990. Thereafter, however, the talks in Geneva resumed the familiar pattern of painfully slow negotiations. Between Wyoming and the proposed 1990 Washington summit, however, two further high level political meetings were intended to push the talks to a conclusion.

First, on 2 to 3 December 1989, Presidents Bush and Gorbachev held a mini-summit in Malta. Although no detailed proposals were discussed, the two sides agreed to accelerate the START process, and resolve all substantive details — if possible in time to sign a treaty at the 1990 summit. Specifically, Baker and Shevardnadze were mandated to meet early in 1990 and resolve three outstanding issues: ALCMs, telemetry encryption, and non-deployed missiles.

The Baker-Shevardnadze ministerial meeting took place in Moscow on 7 to 8 February 1990. Unlike the

meeting in Wyoming, however, press statements avoided detailed explanations of the agreements reached. On ALCMs, the ministerial communiqué merely noted "substantial progress," although, as noted above, they still differed on the range of ALCMs to be included, with the United States continuing to press for 1,500 kilometres and the Soviet Union 600 kilometres. Informal accounts, however, indicated that the sides had agreed to two separate counting rules: ten ALCMs would be attributed to US bombers, and eight to Soviet bombers, with the Soviets allowed to deploy more ALCM bombers than the United States in order to compensate for their numerical inferiority.

Since US bombers can carry up to twenty cruise missiles, and Soviet bombers up to twelve, the effect of this agreement would be to exclude a significant number of strategic warheads from the treaty. This effect was reinforced, moreover, by the emerging arrangement in regard to SLCMs. The communiqué noted that SLCMs would be subject to separate, "politically binding" declarations for the duration of the START treaty, but did not specify the nature of the declarations. Informal accounts suggested that the parties would annually exchange production plans for SLCMs for a five year period, although they were not in agreement as to the range of missiles to be included in the declaration. The emerging agreement on SLCMs, therefore, confirmed the concession made by the Soviets in Wyoming. Whether or not the "politically binding" declaration included a ceiling on SLCMs, it was apparent that SLCMs would constitute a class of nuclear weapons also excluded from the 6,000-warhead limit.

Significant movement also occurred in regard to ballistic missiles. It was agreed that stored missiles tested in a mobile mode would be subject to limits, but that other non-deployed missiles would not be subject to the treaty. On encrypted telemetry, while the details were referred back to Geneva, the sides agreed to a 'non-denial' regime which would apply only to ballistic missiles, and not, as the Soviets had previously argued, to cruise missile tests as well.

With the prospect of one more ministerial meeting to precede the June summit in Washington, therefore, the sides emerged from the February meeting in Moscow with the START treaty in sight. Significant issues remained, such as limits on the deployment of mobile missiles, and the US proposal for a ban on the flight testing of heavy missiles. While there were few who believed, therefore, that a treaty would be ready for signature at the 1990 summit, the two sides seemed committed to reaching substantive agreement at the summit with a view to the completion of a treaty later in 1990.

START AND SDI

The steady push towards a START treaty in 1989 was accompanied by a parallel negotiation in Geneva on ballistic missile defences. As with the START negotiations, however, in the United States national decisions about the feasibility and desirability of Star Wars technologies, as well as considerations about the overall budget of the programme, seemed as likely to affect the outcome as did the negotiations in Geneva.

In January 1989 President Reagan's last budget request called for expenditures of \$US 5.9 billion on SDI with a view to an early decision on the deployment of a first phase ballistic missile defence. In his final report on the SDI programme, General Abrahamson, who retired as Chief of the SDI Office in February 1989, presented just such a view of the programme. His report envisaged a two-layered defence in the first phase of deployment. However, where previously heavy emphasis had been placed on the potential of a nuclear-pulsed, space-based x-ray laser, Abrahamson argued that the space-based system would be based on the concept of *brilliant pebbles* — small rockets with on-board guidance systems, some ten thousand of which would orbit in space with a capability to intercept ballistic missiles in flight.

For Abrahamson and the supporters of *brilliant pebbles*, one of the major advantages of the system was its alleged low cost in comparison with other space-based systems. *Brilliant pebbles* would be complemented by a ground-based interceptor system for mid-course and terminal defence against missiles, and with necessary battle management systems. Abrahamson estimated the cost of such a missile defence at around \$US 50 billion — a level which would make it comparable, for example, with the B-2 bomber programme. He also suggested that it would take two years to confirm the *brilliant pebbles* concept, and a further five years to deploy the system.

This optimism was not shared, however, either by Congress or the incoming Bush Administration. In April the revised defence budget submitted to Congress requested \$US 4.6 billion for SDI, a figure which was subsequently cut by Congress to \$3.1 billion. In his public statements, the President himself remained firmly committed to ballistic missile defence, but both Secretary of Defense Cheney and the new chief of SDI, Air Force General George Monahan, sounded frequent notes of caution. *Brilliant pebbles* was described as having "excellent potential," but emphasis was now placed on proving the concept over the next several years. The test programme for *brilliant pebbles*, moreover, suggested that there would be no conflict with the terms of the ABM Treaty until 1994. In these circumstances it was possible for the Bush administration to continue to support SDI, but

to shift the emphasis to research. While the new administration continued to insist that the ABM Treaty should not stand in the way of the deployment of a proven ballistic missile defence, continued adherence to the ABM Treaty, even in its 'narrow' interpretation, seemed likely at least for several years.

Whether or not influenced by such domestic developments in the United States, in the 1989 negotiations on space weapons the Soviets began to place less emphasis on the linkage between START reductions and adherence to the ABM Treaty. At the end of the eleventh round of negotiations in August 1989, the Soviet chief negotiator, Yuri Nazarkin, repeated the Soviet view that "fifty percent reductions in strategic offensive arms could be made possible only in conditions of non-emplacement of weapons in outer space and observance of the ABM Treaty." At the Wyoming meeting, however, Shevardnadze appeared to signal a major change in Soviet policy by delinking the two issues. Where previously the negotiations had sought to draw up a new treaty or agreement which would bind both sides to the ABM Treaty for a given period of time, Shevardnadze now suggested that both sides continue to abide by the 'traditional' interpretation of the Treaty, and agree that abrogation of the ABM Treaty would constitute grounds for the other party to withdraw from the START agreement.

One month later, in a speech to the Supreme Soviet, Shevardnadze addressed the allegation that the Soviet Union had not itself adhered to the ABM Treaty. Explaining the Soviet commitment to the ABM Treaty as the basis for strategic stability, he spoke of the Krasnoyarsk radar station which stood, he said, "the size of an Egyptian pyramid, representing, to put it bluntly, a violation of the ABM Treaty." Noting that the radar had been put in the wrong place, Shevardnadze explained that "it took us four years to get to the bottom of it."

For the United States, the Soviet proposal on withdrawal from the START agreement posed little or no problem, since the standard provision for withdrawal after six months on the grounds of "supreme national interest" in any case covered such an eventuality. The United States, however, would not formally accept the reference to the 'traditional interpretation', since the Bush administration had already reaffirmed its support for the broad interpretation without which it would not be possible to undertake full tests of space-based systems such as *brilliant pebbles*. In a situation where no such test was imminent, however, in the spring of 1990 it appeared that the two sides would continue to negotiate on space-based defences after reaching an agreement on strategic offensive forces.

CONCLUSIONS

As the thirteenth round of negotiations moved laboriously towards the conclusion of a draft START treaty, the size and structure of strategic nuclear offensive forces into the twenty-first century came into clear focus. First, while START promised significant cuts in strategic warheads, both sides were likely to possess many more deployed warheads than the 6,000 'ceiling' provided for in the agreement. The counting rule on ALCMs, the exclusion of SLCMs, and the generous allowance for gravity bombs meant, for example, that the United States total warhead arsenal was likely to be closer to 9,000 rather than 6,000. For both sides, moreover, the agreement legitimized modernization, so that in a post-START environment both could build an entirely new, more deadly nuclear offense.

This outcome reflected, therefore, less concern with reducing nuclear arsenals as such, and more concern with creating a stable, predictable nuclear relationship. As Richard Burt argued in presenting the US position to the Conference on Disarmament, the purpose was to produce greater stability through reducing force vulnerability, enhancing transparency, and reducing uncertainties about the future evolution of national strategic forces.

In turn, this approach raised important questions about the future of strategic arms negotiations. In late 1989 the United States invited the Soviet Union to outline the issues that might be dealt with in a START II negotiation. It was not clear from the US invitation whether or not the Bush Administration envisaged the objective of a second round as deeper cuts in strategic arsenals, or as further refinements in stability, transparency and predictability.

For Canada, the START formula continues to pose questions about the impact of future offensive force deployments. The deployment of nuclear SLCMs increases the strategic significance of the maritime approaches to Canada. The relative increase in the importance of ALCMs, and the prospect that successive ALCM models will have longer ranges, suggests that the northern approaches to Canadian airspace will increase in importance and be more difficult to monitor. For states which are affected by the post-START force structures, therefore, the US invitation to initiate discussions on START II might be construed more broadly. Canada, perhaps in cooperation with other states, might wish to seize an early opportunity to define its national interests in the evolution of strategic offensive forces.

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